



SOS16: Quantifying the Costs of Exascale
Santa Barbara, California
March 12-15, 2012

Monday 12th

17:00 – 20:00 **Welcome reception and registration** (*Reagan Room*)

Tuesday 13th (*General session held in Santa Ynez*)

7:00 – 8:00 Breakfast (*Santa Ynez Foyer*)

8:00 – 8:15 **Welcome and Introduction**, Jim Ang, SNL

8:15 – 9:15 **Keynote:** Critical Technologies for Exascale, Bob Lucas, USC/ISI

9:15 – 9:45 Design Space Exploration, Sudip Dosanjh, SNL

9:45 – 10:15 Need for Domain Specific Approaches, David Bernholdt, ORNL

10:15 – 10:30 Break

10:30 – 11:00 Blackcomb Hardware software Co-design for Non-Volatile Memory
in Exascale Systems, Jeff Vetter, ORNL

11:00 – 12:30 **Panel Discussion: The Different Dimensions of Exascale Cost**
(Steve Poole, ORNL, Jim Laros, SNL, Thomas Schultess, CSCS,
Alessandro Curioni, IBM-Zurich)

12:30 – 18:00 Open for Informal discussions

18:00 – 19:30 **SOS16 Banquet Dinner** (*Sierra Madre North*)

19:30 – 21:30 **Vendor Session:**
What do you see as the challenges to Exascale
Industry perspectives on opportunities for co-design
20 minute presentations by our hardware-oriented industry
sponsors: Mike Schulte, AMD, Giri Chukkapali, Appro, John
Levesque, Cray, Wilf Pinfeld, Intel, Steve Scott, Nvidia, Eng Lim
Goh, SGI

21:00 – 23:30 Hosted reception (*Room 316*)

Wednesday 14th (*General session held in Santa Ynez*)

7:00 – 8:00 Breakfast (*Santa Ynez Foyer*)

Hardware Perspectives on Co-design

8:15 – 8:45	Future High Performance CPU and System Architectures, Dave Resnick, SNL
8:45 – 9:15	Co-design perspectives from a Data Motion Architect, Ronald Luitjen, IBM Zurich
9:15 – 9:45	Co-design of SoC capabilities for the Cloud, Karl Freund, Calxeda
9:45 - 10:00	Break

Runtime Systems and System SW challenges

10:00 – 10:30	Virtualization for runtime software R&D, Patrick Bridges, U-NM
10:30 – 11:00	Resilience for permanent, transient, and undetected errors, Christian Engelmann, ORNL
11:00 – 11:30	Scalable heterogeneous computing, Sadaf Alam, CSCS
11:30 – 12:00	X-caliber & XGC System Software R&D, Kyle Wheeler, SNL
12:00 – 19:30	Open for Informal discussions, and Dinner on your own
19:30 – 21:30	Panel: Exascale technology overlaps and synergies Non-determinism and uncertainty quantification In situ data analysis and on-node support for debugging? David Rogers, SNL, Clayton Webster, ORNL, Dave Norton, PGI, Dennis Andrews, Roguewave, and Scott Klasky, ORNL
21:00 – 23:30	Hosted reception (<i>Room 316</i>)

Thursday 15th (*General session held in Santa Ynez*)

7:00 - 8:00	Breakfast (<i>Santa Ynez Foyer</i>)
	Modeling and Simulation Efforts
8:00 – 8:30	CASL Accomplishments, John Turner, ORNL
8:30 – 9:00	ASCR Combustion Co-design Center, ExaCT, Jackie Chen, SNL
9:00 – 9:30	Blue Brain Project, Felix Schürmann, EPFL
9:30 – 10:00	Multiphysics Simulation at Exascale, Rob Neely, LLNL
10:00 - 10:15	Break
10:15 - 11:15	Panel: Future Visions and what they've heard at SOS16 Thomas Schultess, CSCS, Jeff Nichols, ORNL, Sudip Dosanjh, SNL, Andrew Jones, NAG
11:15 – 11:30	Invitation to SOS17, AI Geist, ORNL
11:30	Adjourn (Lunch on your own)